

IN THE CLAIMS:

Please amend the claims as follows:

1. (amended) A receiving device for receiving spread signals which are respectively transmitted over a plurality of channels, each of the plurality of channels carrying different data, in a CDMA communication, comprising:

a path detector, which is used in a time-division manner so as to generate timing signals for the plurality of channels, for generating a timing signal corresponding to each of the plurality of channels according to a correlation between an input signal including the spread signals which are respectively transmitted over the plurality of channels and a spread code corresponding to each of the plurality of channels; and

a plurality of despread demodulators, which are arranged for the plurality of channels, for demodulating a corresponding spread signal among the plurality of spread signals included in the input signal according to the timing signal generated by said path detector.

4.(amended) A receiving device for receiving spread signals which are respectively transmitted over a plurality of channels in a CDMA communication, which generates a timing signal by using a plurality of pilot signals for each of the plurality of channels, comprising:

a path detector, which is used in a time-division manner so as to generate timing signals for the plurality of channels, for generating a timing signal corresponding to each of the plurality of channels according to a correlation between an input signal including the spread signals which are respectively transmitted over the plurality of channels and a spread code corresponding to each of the plurality of channels, and

a plurality of despread demodulators, which are arranged for the plurality of channels, for demodulating a corresponding spread signal among the plurality of spread signals included in the input signal according to the timing signal generated by said path detector, wherein said path detector comprises:

first path detecting means for detecting a path with a voltage addition operation if a correlation level between pilot signals is high;

second path detecting means for detecting a path with a power addition operation if the correlation between pilot signals is low; and

timing signal generating means for generating the timing signal based on the paths detected by said first and second path detecting means.

A2  
5.(amended) A receiving device for receiving spread signals which are respectively transmitted over a plurality of channels in a CDMA communication, which generates a timing signal by using a plurality of pilot signals for each of the plurality of channels, comprising:

a path detector, which is used in a time-division manner so as to generate timing signals for the plurality of channels, for generating a timing signal corresponding to each of the plurality of channels according to a correlation between an input signal including the spread signals which are respectively transmitted over the plurality of channels and a spread code corresponding to each of the plurality of channels; and

a plurality of despread demodulators, which are arranged for the plurality of channels, for demodulating a corresponding spread signal among the plurality of spread signals included in the input signal according to the timing signal generated by said path detector,

wherein said path detector comprises:

path detecting means for detecting a path with an operation for adding an absolute value of correlation level data of each of the plurality of pilot signals; and timing signal generating means for generating the timing signal based on the path detected by said path detecting means.

6.(amended) A receiving device for receiving spread signals which are respectively transmitted over a plurality of channels in a CDMA communication, comprising:

A2  
a path detector, which is used in a time-division manner so as to generate timing signals for the plurality of channels, for generating a timing signal corresponding to each of the plurality of channels according to a correlation between an input signal including the spread signals which are respectively transmitted over the plurality of channels and a spread code corresponding to each of the plurality of channels;

a plurality of despread demodulators, which are arranged for the plurality of channels, for demodulating a corresponding spread signal among the plurality of spread signals included in the input signal according to the timing signal generated by said path detector; and

priority information storing means for storing information about priorities of the plurality of despread demodulators, wherein

said path detector operates for a despread demodulator determined based on the priority information stored in said priority information storing means.

A3  
13.(amended) A receiving device for receiving spread signals which are respectively transmitted over a plurality of channels in a CDMA communication, comprising:

a path detector, which is used in a time-division manner so as to generate timing signals for the plurality of channels, for generating a timing signal corresponding to each of the plurality of channels according to a correlation between an input signal including the spread signals which are respectively transmitted over the plurality of channels and a spread code corresponding to each of the plurality of channels;

a plurality of despread demodulators, which are arranged for the plurality of channels, for demodulating a corresponding spread signal among the plurality of spread signals included in the input signal according to the timing signal generated by said path detector;

A3  
a memory for storing input signals; and

memory controlling means for reading the input signals from said memory and for providing said path detector with read signals, when the timing of pilot signals on the plurality of channels overlap, wherein

a spread signal transmitted over each of the plurality of channels includes the pilot signals inserted at predetermined intervals,

said path detector generates the timing signal by using the pilot signals for each of the plurality of channels, and

said path detector sequentially generates timing signals corresponding to the channels by using the pilot signals on the plurality of channels.

A4  
18.(amended) A receiving device for receiving spread signals which are respectively transmitted over a plurality of channels, each of the plurality of channels carrying different data, in a CDMA communication, comprising:

a path detector, which operates in a time-division manner, for detecting delay profiles for the plurality of channels and for generating a timing signal corresponding to each of the channels based on the delay profiles; and

a plurality of despread demodulators, which are arranged for the plurality of channels, for demodulating a corresponding spread signal among a plurality of spread signals included in an input signal according to the timing signal generated by said path detector.

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19.(amended) A receiving device for receiving spread signals which are respectively transmitted over a plurality of channels, each of the plurality of channels carrying different data, in a CDMA communication, comprising:

a plurality of despread demodulators, which are respectively arranged for the plurality of channels, for demodulating a spread signal transmitted over a corresponding channel by despreading the spread signal with a corresponding spread code; and

instructing means for instructing a phase of each spread code used for spreading each of the spread signals transmitted over the plurality of channels, wherein said instructing means is shared by the plurality of despread demodulators.